

SIMPLICITY AIM OF ENGINEERS IN MOTOR DESIGNS

Commenting recently on the motor car automobile engine, a leading engineer declared that simplicity in design is the goal of the entire automobile industry. He said that the engine should adapt itself to new practices.

It is pointed out that fewer parts mean less necessity for adjustment, provide longer life, smoother operation and increased efficiency. Every unnecessary part, or every part which could be eliminated through a change in design, is a material forward step in the production of a silent, efficient engine which will give longer period of service with a minimum upkeep cost.

One of the major questions that confront automotive engineers today is that of valves, which are the controls of the arteries and veins of the motor. One opens up the way for the passage of the fresh gases to give power to the engine, the other opens up the way for the discharge of the dead gases to make way for a new intake. It is a known fact that the simpler the operation of the valves can be made, the greater the silence and efficiency of the power plant.

The goal of engineers is to eliminate valve noise, valve adjustments and to overcome any natural tendencies in valve construction which hamper the operation of the motor at any speed.

The original development of the Knight sleeve-valve engine, such as is used in all the Willys-Knight cars produced by the Willys-Knight company, came as the result of a careful study of valve operation. The purpose of the motor was to eliminate valve clatter, reduce mechanism and to increase the efficiency and life of the motor and the original principle of the engine has never been changed, although it has been developed and improved constructively.

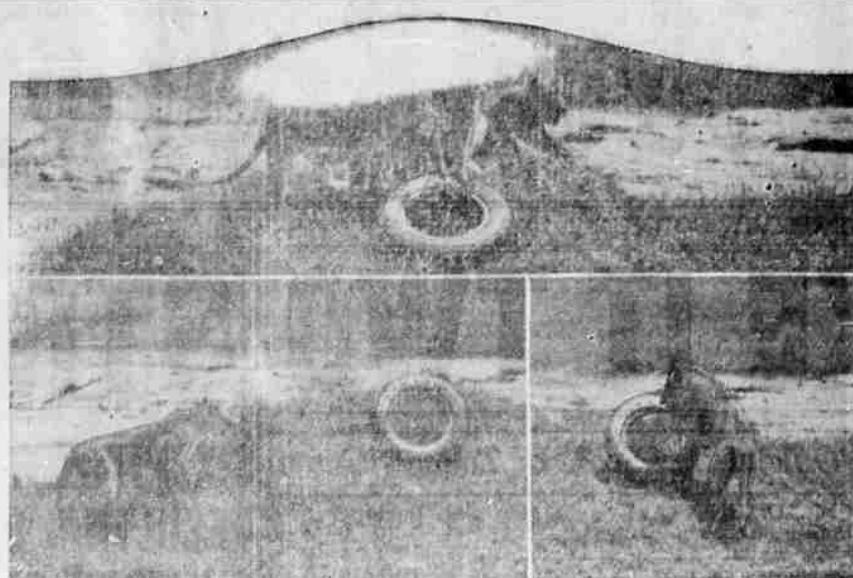
The principle of two sleeves operating inside each cylinder wall, to control the inlet and outgoing gases, seemed a logical solution of many of the problems confronting the designer. These sleeves automatically eliminated a number of parts and furnished an opportunity to carry the valves or parts in the sleeves themselves and the operation of the sleeves was a simple matter.

19 DAYS AND NIGHTS IN ENDURANCE TEST

A striking demonstration of endurance, human and mechanical, was given by two drivers (one of them a young woman) and a four-speed Graham-Paige, when Mr. and Mrs. Earl Williams, without ever leaving the car, completed a non-stop run of 164 hours 7 minutes in the 19 days and nights of continuous driving. The car, a 1929 Graham-Paige, was driven on a track at the Utah State fair grounds.

As a test of stamina between man and machine, the result was a draw, for both car and the drivers were apparently good for many more hours when the end came, suddenly and promptly, one midnight, with a nail through the right rear tire of the Graham-Paige 621 sedan.

Under the strict regulations governing the test, the run was to be considered closed the moment the engine or the wheels stopped for



To tag an African lion in his native haunts is the goal of the ambition of many a big game hunter. When one sees more than a thousand lions, however, providing about in the depths of the African jungles, the urge to slaughter the king of beasts soon dies out.

This was the experience of Paul L. Hoefler, of Denver, Colo., head of the Colorado African expedition, who has just arrived in New York after having accomplished the first crossing ever made of Central Africa by any man, white or black.

It took nearly a year for the expedition to cross equatorial Africa from Mombasa on the east coast to Lagos, Nigeria, on the west coast, traveling in two automobiles, trucks, with several hundred native carriers and guides.

Eight months were spent in interior Africa, photographing and

studying wild life in regions never before visited by white men.

Of more than 5,000 elephants they saw, they did not kill one and only five out of more than 1,000 lions were shot.

On returning home, Hoefler explained his "hunter-explorer" who slaughtered the same and he said that he and his friends had killed barely enough to supply their food wants.

"It would be a great thing," Hoefler said, "if not only the Tanganyika district but other regions could be made game sanctuaries."

Before starting on his unprecedented undertaking, Hoefler had equipped his two trucks with General cord tires and carried two spare sets of each truck.

While in camp near Lagos, Nigeria, one of the General tire trucks, which was lying on the side of an ant-hill, happened to arouse the curiosity of a big-headed lion who approached close enough to the camp to investigate it.

In the picture at the lower left in the above illustration, a telescope lens caught the lion just as it had discovered the tire lying against the ant-hill and he is staring at it as he would stalk a living thing.

In the picture at the lower left, he has discovered that it does not move and he has started to play with it.

When his curiosity had been satisfied, he called his two wives who are shown with him in the upper picture in the group and they have taken the General tire into their possession.

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When the Graham-Paige, was the endurance and stamina of the two drivers. They had elected to seek an endurance record by remaining in the sedan every instant of its run, taking turns at the controls. The rear compartment was curtained off and in this restricted space the pilot, who had an attendant on the ground, slept, bathed and ate.

Aside from fatigue and some difficulty in recovering their land legs, the drivers showed no ill effects of the long grind, and both were up and about twelve hours after the end of the ordeal. Both warmly praised the steadiness of the Graham-Paige throughout the run, and the remarkable ease of handling that reduced the labor and strain on the driver. High gear of the four-speed transmission was used almost continuously and materially eased the drivers' task.

Once the run nearly came to an untimely end when torrential rains turned the track into soft clay. For more than two days the car was held to a very low speed while the wheels forced their way into deep through the mud, and the strain on the drivers was tremendously increased by the constant danger of skidding or steering through the mud. The rains were followed by a hot spell, which dried out the track but did not add to the comfort of the pilot.

Refueling and renewing the lubricating oil were easily carried out. A tank truck ran alongside the Graham-Paige, and one of its crew stepped from the truck to the truck-rack of the car. Then a fuel and the gasoline hose were passed over, and the tank filled to the brim. Engine oil was supplied by an attendant who hopped aboard, and refilled the crankcase from cans.

Before this invention encountered the usual opposition accorded to revolutionary military innovations, but it was finally adopted by the British army and was first used in action by British troops at Amoy in 1841.

HONOR PRIEST WHO INVENTED CARTRIDGE

LONDON, Oct. 8.—(AP)—Coincident with the world trend toward disarmament, a tablet has been unveiled in the Tower of London, to Rev. Alexander John Forsyth, a parish priest of Helmsley, in Aberdeenshire, Scotland, who in 1806 invented a detonating powder and the first percussion lock for small arms. His finding laid the foundation for the modern rifle cartridge.

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A TWIN IGNITION STRAIGHT EIGHT

KENOSHA, Oct. 9.—A twin ignition straight eight—the first car of its kind in the world—led the imposing presentation of three new '400' series models for 1930, introduced to the motoring public by the Nash Motors company.

Built with the sound experience and the broad understanding of modern needs that has made Nash engineering a sterling standard of the American industry, these three entirely new lines of cars, on five wheelbase lengths and in three Nash price fields, mark a startling advancement in perfection of design and performance beyond any previous accomplishment and serve to lift moderate priced motoring to its highest level of satisfaction. They appear as another fulfillment of C. W. Nash's undeviating ambition to supply at moderate cost automobiles which possess everything in appearance, performance, comfort and quality offered by the country's most costly cars and to develop finer cars as his thirty-three years of successful manufacturing roll forward the record of industrial achievement.

"These new series of motor cars, in our opinion, are most worthy to carry forward the name Nash and the name '400,'" he said in commenting on the master work of his famous engineering department. "They are in every way worthy to succeed the first '400' of which we think and speak with so much pride—worthy successors to a great success. In every advanced feature, I believe that they add something vitally finer to the efficiency and enjoyment of motoring."

"Three complete groups—the twin-ignition eight, the twin-ignition six and the single six are included in this valuable Nash offering. All of the new models are equipped with motors so far advanced as to be considered a forecast of future fine car design, but based on engineering principles

proved and enriched by practical service and nation-wide public approval. Highest standards in coach building are set by the new and finer Salon bodies, so carefully engineered to each type of car, and a score of important but perfectly co-ordinated advancements in design and equipment await the critical appraisal of experienced motorists.

Introduction of the Nash twin-ignition eight presents the product of more than three years intensive study and experiment by Nash engineers and one which embraces advancements in eight cylinder design and performance not obtainable in any motor car built today. It is powered by an eight-in-line, twin ignition, valve-in-head, nine-bearing motor; with an integrally counter-balanced, hollow-pin crankshaft; with aluminum alloy Invar-Strut pistons and aluminum alloy connecting rods capped at the crankshaft end with case hardened steel; a motor that develops 101

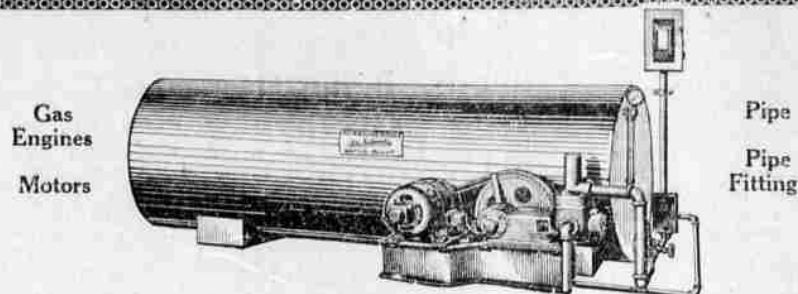
horsepower in its 298.6 cubic inches of displacement and matches its amazing power and speed with surprising quietness, smoothness, ease of control and fuel economy.

Mrs. Harry Winston of Winston was a guest of Mrs. Floyd Fear of this city yesterday.

INFANTS' GOODS

Have any trouble finding what you want? Visit Carr's new infants' wear dept. Gertrudes, kimono, dresses, bonnets, shoes, booties, bibs, sacques, sweaters, etc. All quality goods at low prices. Carr's. —(Adv.)

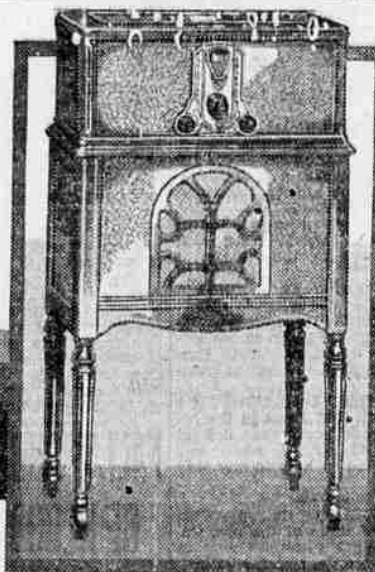
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THE PUNCH!"

Gold-Bronze Console
The new Stewart-Warner Radio in combination with a sturdy console table, in matching Antique Gold-Bronze. Height, 38 1/2"; width, 21 1/2"; depth, 13 1/2". When furnished with the new Stewart-Warner Radio and Electro-Dynamic Reproducible, \$128.50; with Dynamic Reproducible, \$117.75 (both less tubes.)

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Gold-Plated Connections: 22-carat gold plate, the surest and finest wiring connection known to radio.
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Dynamic and Dyphonic Reproduction: separate connections permit use of either type without extra attachments of any kind.



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Come in and see the complete line of new Stewart-Warner models now on display in this store. Our extended payment plan enables you to select any set you prefer—and have it delivered on a moderate down payment. Choose your new Stewart-Warner Radio—NOW!

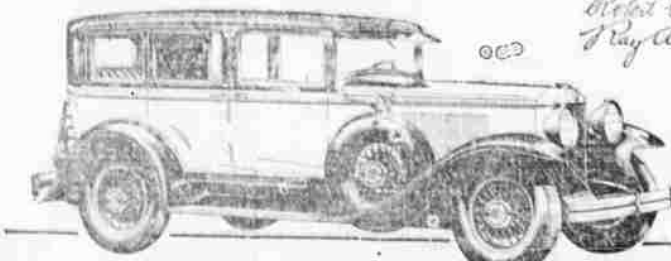
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